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ATTORNEY DOCKET NO. P05746 (NATI15-05746)  
U.S. SERIAL NO. 10/728,120  
PATENT**PENDING CLAIMS:**

1. (Previously Presented) A system comprising:  
  
a controller that, when operably coupled to a light source emitting light at a selectively variable output power, determines an output power for emitted light based upon measurements of one or more of: forward voltage and current across the light source, ambient temperature around the light source, and a factor specific to mounting of the light source, wherein the forward voltage is employed to determine a forward current through the light source.
2. (Previously Presented) The system according to claim 1, wherein the output power is determined based further upon the forward current.
3. (Original) The system according to claim 2, wherein the forward current is measured, calculated or determined from a look-up table.
4. (Original) The system according to claim 1, wherein the forward voltage is employed to determine a die temperature for the light source, and wherein the output power is determined based further upon the die temperature.

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5. (Original) The system according to claim 4, wherein the die temperature is calculated or determined from a look-up table.
6. (Original) The system according to claim 1, wherein the output power is determined without measurement of emitted light.
7. (Original) An optical subassembly including the system according to claim 1, the optical subassembly further comprising the light source and adapted for transmission of data over an optical transmission medium.
8. (Original) A computer including the optical subassembly according to claim 7, the computer further comprising:
- a processor coupled to the controller; and
  - a network connection through the optical subassembly to the optical transmission medium.

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9. (Previously Presented) A method comprising:
- employing a forward voltage to determine a forward current through a light source; and  
determining an output power for light emitted from the light source emitting light at a selectively  
variable output power, wherein the determination of the output power is based upon measurements  
of one or more of: forward voltage and current across the light source, ambient temperature around  
the light source, and a factor specific to mounting of the light source.
10. (Previously Presented) The method according to claim 9, further comprising:
- determining the output power based further upon the forward current.
11. (Original) The method according to claim 10, further comprising:
- measuring the forward current;  
calculating the forward current; or  
determining the forward current from a look-up table.
12. (Original) The method according to claim 9, further comprising:
- employing the forward voltage to determine a die temperature for the light source; and  
determining the output power based further upon the die temperature.

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13. (Original) The method according to claim 12, further comprising:  
calculating the die temperature; or  
determining the die temperature from a look-up table.
14. (Original) The method according to claim 9, further comprising:  
determining the output power without measurement of emitted light.
15. (Previously Presented) An optical subassembly comprising:  
a light source emitting light at a selectively variable output power; and  
a controller that, when operably coupled to the light source, determines an output power for emitted light based upon measurements of one or more of: forward voltage and current across the light source, ambient temperature around the light source, and a factor specific to mounting of the light source, wherein the forward voltage is employed to determine one or both of a forward current through the light source and a die temperature for the light source.
16. (Original) The optical subassembly according to claim 15, further comprising:  
a temperature sensor proximate to the light source and coupled to the controller, the temperature sensor providing measurements of the ambient temperature for use by the controller.

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17. (Original) The optical subassembly according to claim 16, wherein the controller further comprises:

a voltage detector providing measurements of the forward voltage to the controller.

18. (Previously Presented) The optical subassembly according to claim 17, wherein the output power is determined based further upon one or both of the forward current and the die temperature.

19. (Original) The optical subassembly according to claim 18, further comprising:

a memory communicably coupled to the controller, the memory containing one or both of a look-up table for the forward current and a look-up table for the die temperature.

20. (Original) The optical subassembly according to claim 19, wherein the output power is determined without measurement of emitted light emitted by the light source.